Local Work Instruction:
Noble Discover: Blowout Preventer Fluid Discharge – D006

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SCOPE

This document offers work level instructions for the sampling, testing, and reporting associated with blow-out preventer discharge while operating under the guidelines of the NPDES General Permit AKG-28-8100 onboard the *Noble Discoverer*. The blow-out preventer's (BOP) primary role is absolute control of the wellhead. It is used when a well condition, such as uncontrolled release of formation gas or fluid, requires an immediate shut-in of the well to prevent a catastrophic event from occurring. The BOP fluid is designed to hydraulically activate components of the BOP. Prior to deploying the BOP stack, a complete surface test will be performed on the BOP on deck in the BOP garage. The effluent will be captured on the rig. Once the BOP is deployed, all releases will occur below surface water while preforming function tests.

Federal Regulations require the blow-out preventer to be function tested on a weekly basis and a complete pressure test to be performed bimonthly, unless an alternative time interval is authorized. During each function test of the blow-out preventer, the manufacturer's recommended mixture of, water, glycol and Erifon HD603HP is released into the receiving waters. Function test volumes vary depending on the specific section of the BOP being tested. These volumes range from 1 gallon to approximately 60 gallons; with a total estimated volume of all discharge fluids to be approximately 530 gallons per BOP test.

RESPONSIBILITY

The M-I SWACO NPDES Compliance Specialist is responsible to ensure that this LWI has been provided to each person prior to conducting this task. Any personnel that may perform the tasks outlined in this document must be familiar with the process, before the rig begins operating under NPDES GP regulations.

During active drilling operations, the M-I SWACO NPDES Compliance Specialist is responsible for performing the following tasks:

- Document the estimated volume discharged.
- Document the quantity of any chemical used.
- Perform and document visual sheen tests from the main deck facing in the direction of current flow. If visual sheen tests cannot be performed, collect and document samples for static sheen from BOP reservoir.
- Collect and document samples for pH analysis.

1.0 References:

1.0 NPDES GP AKG-28-8100:

1.0.1 Table 7– *Effluent Limitations and Monitoring Requirements for Blow-out Preventer (D006).*

1.1 Erifon HD603HP Blow-out Preventer Test Fluid Safety Data Sheet.

1.2 Noble Discoverer Best Management Practices Plan, April 2015.

1.3 Noble Discoverer Quality Assurance Project Plan, April 2015.

1.4 M-I SWACO Standard Operating Procedures: 1006, 2001, 2012, 2003, 2008, 3004.

1.5 Shell Exploration & Production Company Alaska Venture 2015 Noble Discoverer Waste Management Plan.

2.0 General Requirements:

2.0 The M-I SWACO NPDES Compliance Specialist is responsible for sampling, testing, and reporting all results to the Shell Environmental Department while operating under the NPDES GP AKG-28-8100.

2.1 The Shell Environmental Department is responsible for maintaining and submitting to EPA through the netDMR all discharges sampling, testing and results. Sample collection will be done in accordance with the Quality Assurance Project Plan.

2.2 Noble is responsible to operate and repair all equipment associated with this discharge.

3.0 Safety Guidelines:

3.0 Before any operations can take place, all personnel involved in this process must complete the following details if required by operator or contractor:

- 3.0.1 The Pre-Tour Meeting is when daily activities are discussed.
- 3.0.2 Job Safety Analysis with all involved parties present.
- 3.0.3 Review Risk Assessment, if applicable.
- 3.0.4 Noble Permit to Work

3.1 Appropriate personal protective equipment must be worn at all times.

4.0 Discharge/Task Description:

4.0 BOP fluid is a mixture made by an automated process onboard the *Noble Discoverer* following manufacturer's recommendation of approximately 60% water, 38% glycol and 2% Erifon HD603HP. Noble is responsible for monitoring and recording tank volumes involved in the process of mixing BOP fluid.

4.1 BOP fluid volume use will be determined and submitted to Shell Environmental Department by the M-I SWACO NPDES Compliance Specialist. Samples of fluid used to test the BOP will be collected from the fluid supply tanks.

4.2 Visual inspection of the receiving water, near the location of the BOP will be completed during each test. Function test volumes and observations will be recorded on the NPDES Master Spreadsheet by the M-I SWACO NPDES Compliance Specialist. All results will be recorded and reported to Shell Environmental Department and submitted to EPA in the netDMR.

4.3 A visual or static sheen test will be performed on any fluid processed through the MPC prior to being discharged. The M-I SWACO NPDES Compliance Specialist will record observations or test results on the NPDES Master Spreadsheet.

4.4 If a visual sheen or a static sheen test fails, the discharge will be isolated and contained or discontinued until resolution is achieved. The Drilling Foreman, the Person in Charge (PIC) and the M-I SWACO NPDES Compliance Specialist will confirm that operations can continue.

4.5 The M-I SWACO NPDES Compliance Specialist is responsible to notify the Shell Environmental Department at 907-830-7435, of any upset condition.

5.0 Effluent Limitations and Monitoring Requirements - Blow Out Preventer (D006):

Effluent Parameter	Effluent Limitations		Monitoring Requirements	
	Average Monthly Limit	Maximum Daily Limit	Sample Frequency	Sample Type
pH	Report (s.u.)		Monthly	Grab
Free oil	No discharge		Once/discharge	Visual/Grab
Total Volume	Report (gal)		Monthly	Estimate

6.0 Clean-up:

6.0 Follow housekeeping procedures.

7.0 Contingency:

7.0 In the unlikely event, the BOP fluid becomes contaminated, the fluid will be replaced.

Revision Log:

Date:	Document History:	Revised/reviewed by:	Location: